

REMARKS

Claims 9 thru 19 and claim 21 are currently pending in the application. Claims 9 and 17 has been amended. Support for the amendments to claims may be found in the application as originally filed at page 1, lines 5 and 6; and filed at page 2, lines 22 to 26, page 3, line 19, page 6, lines 8 to 10 and page 8, lines 10 to 14. Additional support may be found at page 4, lines 13 to 16.

The specific grounds for rejection and Applicant's response to them are set forth in detail below.

1. Figure 1 is objected to and requires correction and a replacement sheet.

The Examiner states, "Figure 1 should be designated by a legend such as -Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance."

Applicants are concurrently submitting a "Replacement Sheet" for Figure 1. In addition, the specification has been amended to include reference to "Prior Art" in the legend for Figure 1.

2. Claims 9-19, 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner states, "Throughout the claims, "positive displacement type substance sampling device" is unclear because it is directed to intended use. The instant device can be used as either a positive displacement pipet (when the plunger travels from the end of the barrel to aspirate and to the end of the barrel to dispense) or an air displacement device (when the

plunger is spaced from the end of the barrel during aspiration and dispensing).”.

Applicant has amended independent claims 9 and 17 with language that Applicant believes will obviate the Examiner’s basis for rejection. Applicant respectfully requests reconsideration.

3. Claims 9-19, 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Hughes 3,882,665.

The Examiner states, “Hughes teaches coating wire with plastic in an extrusion method, including a step of cooling the wire during the coating process (col. 7, lines 63-67). The wires are joined together in a strip 23 with apertures (sprockets) 24 (Figure 3). With respect to claim 22, plural plungers 19 on different axes inside different regions of second molded material 21 having a common core where walls 21 abut are adjacent to apertures 24. Note that the instant method claims read on coating a wire and that no additional steps of preparing the device for use as a pipet, or steps directed to using the device as a pipet are claimed.”.

Applicant respectfully disagrees. The Applicant believes that the independent claims of this application are both novel and inventive in the presence of this document. In response to the first office action, it was argued that this document fails to disclose a method of making a positive displacement type substance sampling and dispensing device. This wording has been replaced in claim 9 as amended. The method is now a method of making a plunger type pipette. Quite clearly, this document fails to disclose a method of making a plunger type pipette. The wires of this document cannot be considered to be a plunger because the polyvinylidene fluoride bonds very securely to the thin film of the second primer, which is fused to the wire (column 7, line 67 to column 8, line 5). The Examiner commented that there was nothing in claim 9 requiring movement between the plunger and barrel. This has been rectified by the introduction of the wording “and the central plunger can slide in the barrel to draw a substance into it and/or to dispense a substance from it”. Accordingly, as the outer coating in this document is bonded securely to the inner wires, this limitation is not met.

Similar arguments apply in respect of independent claim 17. This citation fails to disclose a plunger type pipette. Furthermore, it fails to disclose or to teach that the central plunger can

slide in the barrel to draw a substance into it and/or to dispense a substance from it (in this citation relative movement is not possible), or that the plunger is projectable beyond a tip of the barrel.

Accordingly, the independent claims, and thus the dependent claims, of this application are believed to be allowable in view of this citation. Applicant respectfully requests reconsideration.

4. Claims 9-12, 14, 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Franke US4084730.

The Examiner states, "Franke teaches making a positive displacement pipet by coating a plastic material around a wire (col. 3, lines 59-64, Figures 1-2). It is the examiner's position that the spray coating method inherently includes molding and setting, that "wire" as commonly used means a thinly drawn metal, and that the plastic and metal inherently have the properties of claim 14, specifically, metal inherently has a higher thermal conductivity and/or heat capacity than plastic."

Applicant respectfully disagrees. As was pointed out in response to the first office action, this document discloses the production of a plunger by plastic coating a wire to increase its diameter and also to make it compliant. Plastic coating a wire as set forth in this citation does not make a plunger type pipette. Rather, it makes a plunger only. This is a first distinction between the disclosure and teaching of this US citation and that which is now claimed.

Furthermore, as the elements relied upon by the Examiner form only a plunger, there is no disclosure or teaching that the central plunger can slide in the barrel to draw a substance into it and/or to dispense a substance from it. Were relative movement possible between the elements 50 and 23 in this document, they would not function as a plunger. This is therefore contrary to the teaching of that document.

Furthermore, and for the same reasons, there is no disclosure or teaching in this document that the plunger is projectable beyond a tip of the barrel.

For all of these reasons, it is believed that US 4,084,730 fails to disclose or teach the subject matter of the independent claims (and therefore the dependent claims) of this application. Applicant respectfully requests reconsideration.

5. Alternatively, claims 9-12, 14-16 rejected under 35 U.S.C. 103(a) as being unpatentable over Franke US4084730.

The Examiner states, "The teachings of Franke are given above. Franke fails to explicitly teach that the plastic is set or that the wire is metal.

It would have been obvious to set the plastic in order to produce its known properties at ambient conditions and to make the wire of metal in order to make a wire of known materials within the common meaning of the word "wire". With respect to claim 15, it would have been obvious to use alternative known coating methods, such as dip coating in place of spray coating for its known coating function."

For the same reasons stated above relating to the 102(b) rejections, it is believed that US 4,084,730 fails to disclose or teach the subject matter of the independent claims (and therefore the dependent claims) of this application and is as such this reference is not appropriate for citing in a 103 rejection.. Applicant respectfully requests reconsideration.

6. Claim 17 is rejected under 35 U.S.C. 102(b) as being anticipated by Pecsar US3877310.

The Examiner states, "Pecsar teaches bore 93, plunger 92 coupled to bore 466 and plunger 434 and shown as uniform cylinders along their lengths (Figs. 5 and 9, col. 13, lines 30-40). Note that the method of making is not seen as defining over the prior art structure."

Applicant respectfully disagrees. The Examiner has leveled this document against claim 17 only. In doing so, two combinations of bore and plunger (93 and 92) and (466 and 434) have been suggested as showing uniform cylinders along their length. These are said to be shown in Figures 5 and 9. Each of these combinations is discussed separately.

One combination is said to be bore 466 and plunger 434. However, this combination of elements is not a plunger type pipette as now required in claim 17. The element 434 appears not to be a central plunger formed from a first drawn material. Moreover, it cannot slide in the barrel 466 to draw a substance into it and/or to dispense a substance from it. Still further, the element 434 does not define a plunger which can protrude beyond a tip of the barrel 466. There is no disclosure or suggestion that the barrel 466 has an inner core and the plunger 434 has an outer surface each of which are uniform cylinders, the barrel core corresponding to the plunger outer surface along its entire length. Furthermore, it is noted that there is no plunger within the bore 466. In summary, this combination of elements is not a plunger type pipette as now claimed, but is simply a pneumatic actuator 434 used to bring a conduit 466 (which supplies a pipette) into and out of fluid.

The second combination relied upon by the Examiner is bore 93 and plunger 92. These elements may be viewed best in Figures 3 and 5. Figure 5 is a cut-away cross-section which shows a small portion only of that which is shown in Figure 3. As will be apparent, Figure 3 makes clear the presence of a needle on the end of the barrel of that device.

Column 6, lines 40 to 43 recite "the end of the syringe barrel remote from the plunger supports a hollow needle, or cannula 94, which communicates with the chamber 93 and projects from the syringe barrel towards the frame end wall 44". Accordingly, the barrel of this document does not correspond to the outer surface of the plunger along its entire length. Rather, the barrel is closed to an extent at the end distal to the plunger by the needle or cannula. Accordingly, and for this reason, the plunger cannot project beyond a tip of the barrel. This is prevented as the tip of the barrel is occluded to an extent by the needle or cannula.

The ability of the plunger to project beyond a tip of the barrel is significant, and has distinct advantages. It allows the full contact area of the plunger to be guaranteed to be wetted. The plunger is able to displace all of the aspirated material leaving no dead volume (this is important where wastage of material is to be avoided). Furthermore, the fact that the plunger can protrude also aids in washing the tip where cross contamination is to be minimized. The surfaces to be washed are all external to the device as opposed to conventional syringes which require wash

fluid to be drawn into the interior and then expelled. None of these advantages are achievable in the apparatus set forth in US 3,877,310.

In view of this distinct difference between US 3,877,310 and that which is claimed in claim 17, it is submitted that claim 17 and the claims dependent upon it are both novel and inventive.

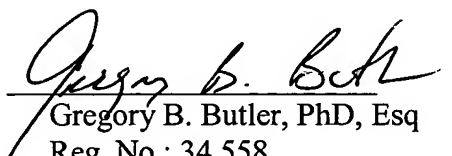
Applicants request the entry of the changes to the claims requested above. No new matter has been added by the amendments to the claims. Applicants submit that the present application and claims, as amended, is in condition for allowance, and, accordingly, early consideration and allowance of the application is respectfully requested.

If for any reason an additional fee is required, a fee paid is inadequate or credit is owed for any excess fee paid, you are hereby authorized and requested to charge Deposit Account No. 04-1105.

If the undersigned can be of any assistance in advancing the prosecution of this case, the Examiner is invited to contact him through the information given below.

Respectfully submitted,

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